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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/898,417	07/03/2001	Michael R. Rosen	65219-A/JPW/PJP	3315

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EXAMINER

WHITEMAN, BRIAN A

ART UNIT

PAPER NUMBER

1635

DATE MAILED: 10/02/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

09/898,417

Applicant(s)

ROSEN ET AL.

Examiner

Brian Whiteman

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 1 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-31 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☐ Claim(s) \_\_\_\_ is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☒ Claim(s) 1-31 are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

**Priority under 35 U.S.C. §§ 119 and 120**

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☒ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

**Attachment(s)**

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) \_\_\_\_.
- 4) ☐ Interview Summary (PTO-413) Paper No(s) \_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other:

### **DETAILED ACTION**

Claims 1-31 are pending.

**Note:** Claims 21-31 are incomplete and are objected to under MPEP 608.01(n) for not referring to a preceding claim. Therefore, the claims will not be assigned a Group because the claims depend on higher number claims or claims that are not listed in the index of claims. The examiner cannot determine what claims these claims are dependent on and what these claims are claiming. If the claims are amended in response to the election/restriction and they do not read on the elected embodiment, the claims will be considered drawn to a non-elected invention.

#### ***Election/Restrictions***

Restriction to one of the following inventions and an election of species is required under 35 U.S.C. 121:

- I. Claims 1-3 and 13-16, drawn to a method of assaying whether an agent affects heart rate, wherein the compound is not a nucleic acid classified in class 424, subclass 9.1.
- II. Claims 1-4 and 13-16, drawn to a method of assaying whether an agent affects the membrane potential of a cell, wherein the compound comprises a nucleic acid which encodes MiRP1, classified in class 514, subclass 44.
- III. Claims 1-3, 5, 6, and 13-16, drawn to a method of assaying whether an agent affects the membrane potential of a cell, wherein the compound comprises a nucleic acid which encodes HCN1, classified in class 514, subclass 44.

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- IV. Claims 1-3, 5, 7, and 13-16, drawn to a method of assaying whether an agent affects the membrane potential of a cell, wherein the compound comprises a nucleic acid which encodes HCN2, classified in class 514, subclass 44.
- V. Claims 1-3, 5, 8, and 13-16, drawn to a method of assaying whether an agent affects the membrane potential of a cell, wherein the compound comprises a nucleic acid which encodes HCN4, classified in class 514, subclass 44.
- VI. Claims 1-3 and 9-16, drawn to a method of assaying whether an agent affects the membrane potential of a cell, wherein the compound comprises a nucleic acid which encodes MiRP1 and a HCN channel, classified in class 514, subclass 44.

If applicants elect Group VI applicants are further required to elect a specific HCN selected from

- Group I. The nucleic acid further encoding HCN1,
- Group II. The nucleic acid further encoding HCN2, or
- Group III. The nucleic acid further encoding HCN4.

- VII. Claims 17, drawn to a method of assaying whether an agent affects the membrane potential of a cell, classified in class 424, subclass 9.1.
- VIII. Claim 18, drawn to a method of assaying whether an agent affects the activation of a cell, classified in class 424, subclass 9.1.
- IX. Claim 19, drawn to a method of assaying whether an agent affects the contraction of a cell, classified in class 424, subclass 9.1.
- X. Claims 20, drawn to a vector comprising a nucleotide sequence encoding an ion channel protein, classified in class 435, subclass 320.1.

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Claim 1 link(s) inventions I and II-VI. The restriction requirement between the linked inventions is subject to the non-allowance of the linking claim(s), claim 1. Claim 5 link(s) inventions III-V. The restriction requirement between the linked inventions is subject to the non-allowance of the linking claim(s), claim 5. Upon the allowance of the linking claim(s), the restriction requirement as to the linked inventions shall be withdrawn and any claim(s) depending from or otherwise including all the limitations of the allowable linking claim(s) will be entitled to examination in the instant application. Applicant(s) are advised that if any such claim(s) depending from or including all the limitations of the allowable linking claim(s) is/are presented in a continuation or divisional application, the claims of the continuation or divisional application may be subject to provisional statutory and/or nonstatutory double patenting rejections over the claims of the instant application. Where a restriction requirement is withdrawn, the provisions of 35 U.S.C. 121 are no longer applicable. *In re Ziegler*, 44 F.2d 1211, 1215, 170 USPQ 129, 131-32 (CCPA 1971). See also MPEP § 804.01.

The inventions are distinct, each from the other because of the following reasons:

As set forth in *In re Harnisch* (631F.2d 716 206 USPQ 300 (CCPA 1980), see MPEP 803.02, unity of invention exists for all species in a claim (1) shows a common utility, and (2) share a substantial structural feature disclosed as being essential to that utility.

In view of *In re Harnisch*, claims 1-19 lack unity of invention for the following reasons: 1) a method of assaying whether an agent affects heart rate, 2) a method of assaying whether an agent affects the membrane potential of a cell; 3) a method of assaying whether an agent affects the contraction of a cell; 4) a method of assaying whether an agent affects the activation of a cell. The methods in 1-4 set forth above do not have a common utility and do not share a substantial

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structural feature. Therefore in view of In re Harnisch, claims 1-19 lack unity of invention and are separated into distinct groups as shown in Groups I and II-IX.

Although there are no provisions under the section for "Relationship of Inventions" in MPEP 806.05 for inventive groups that are directed to different methods, however, MPEP 802.01 states, "35 U.S.C. 121 quoted in the preceding section states that the Commissioner may require restriction if two or more "independent and distinct" inventions are claimed in one application". A restriction is deemed to be proper because each of the methods of inventions I and II-IX, constitutes patentably distinct inventions for the following reasons: Each of the inventions is directed to different goals and comprises materially distinct steps, wherein each of the compositions in each invention is structurally distinct and/or generates distinct mechanisms and functional effects. The method in Group I requires a non-nucleic acid compound and the methods in Groups II-VI require distinct materials and method steps and Groups VII-IX encompass distinct methods and materials. The scope of each of the cited inventions encompasses an employed method, which generates distinct function(s) and effect(s), and furthermore does not necessarily overlap with that of another invention. Inventions I-IX comprise materially distinct steps, and/or generate different functions and effects, and thus, are not required for use with one another. Therefore the invention of group I is distinct from groups II-IX.

Inventions X and I-IX are related as product and process of use. The inventions can be shown to be distinct if either or both of the following can be shown: (1) the process for using the product as claimed can be practiced with another materially different product or (2) the product as claimed can be used in a materially different process of using that product (MPEP

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§ 806.05(h)). In the instant case the product in Group X can be used in several materially different processes as displayed in the distinct methods in Groups I-IX. In addition, the vector in Group X can be used in the following materially different processes: an *ex vivo* or *in vivo* method of gene therapy (cardiac condition, muscle condition, etc.), producing antibodies in a mammal to an ion channel. Furthermore, the classification of each group displays that the search for Group I would not overlap with the search for Group II-IX.

If applicants elect Group I, II, III, IV, V, or VI, an election of species is required.

This application contains claims directed to the following patentably distinct species of the claimed invention: contacting selected from claim 13.

Applicant is further required under 35 U.S.C. 121 to elect a single disclosed species for prosecution on the merits to which the claims shall be restricted if no generic claim is finally held to be allowable. Currently, claim 1 is generic.

Applicant is advised that a reply to this requirement must include an identification of the species that is elected consonant with this requirement, and a listing of all claims readable thereon, including any claims subsequently added. An argument that a claim is allowable or that all claims are generic is considered nonresponsive unless accompanied by an election.

Upon the allowance of a generic claim, applicant will be entitled to consideration of claims to additional species which are written in dependent form or otherwise include all the limitations of an allowed generic claim as provided by 37 CFR 1.141. If claims are added after the election, applicant must indicate which are readable upon the elected species. MPEP § 809.02(a).

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Should applicant traverse on the ground that the species are not patentably distinct, applicant should submit evidence or identify such evidence now of record showing the species to be obvious variants or clearly admit on the record that this is the case. In either instance, if the examiner finds one of the inventions unpatentable over the prior art, the evidence or admission may be used in a rejection under 35 U.S.C. 103(a) of the other invention.

Because these inventions are distinct for the reasons given above and the literature search required for each Group is not required for the other Groups, restriction for examination purposes as indicated is proper.

It would be unduly burdensome for the examiner to search and consider patentability of all of the presently pending claims, a restriction for examination purposes as indicated is proper.

Applicant is advised that the reply to this requirement to be complete must include an election of the invention to be examined even though the requirement be traversed (37 CFR 1.143).

Applicant is reminded that upon cancellation of claims to a non-elected invention, the inventorship must be amended in compliance with 37 C.F.R. § 1.48(b) if one or more of the currently named inventors is no longer an inventor of at least one claim remaining in the application. Any amendment of inventorship must be accompanied by a diligently filed petition under 37 C.F.R. § 1.48(b) and by the fee required under 37 § 1.17(h).

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kay Pinkney whose telephone number is (703) 305-3553.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Brian Whiteman whose telephone number is (703) 305-0775.



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The examiner can normally be reached on Monday through Friday from 8:00 to 5:00 (Eastern Standard Time), with alternating Fridays off.


If attempts to reach the examiner by telephone are unsuccessful, the examiner's mentor, primary examiner, Dave Nguyen can be reached at (703) 305-2024.

If attempts to reach the primary examiner by telephone are unsuccessful, the examiner's supervisor, John L. LeGuyader, SPE - Art Unit 1635, can be reached at (703) 308-0447.

Papers related to this application may be submitted to Group 1600 by facsimile transmission. Papers should be faxed to Group 1600 via the PTO Fax Center located in Crystal Mall 1. The faxing of such papers must conform with the notice published in the Official Gazette, 1096 OG 30 (November 15, 1989). The CM1 Fax Center number is (703) 308-4556.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0196.

Brian Whiteman  
1635  
9/28/02



DAVE T. NGUYEN  
PRIMARY EXAMINER